

Amendments to the Claims

The following listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims**

- 1-2. (Canceled).
3. (Currently Amended). A method for storing hydrogen ~~according to claim 1, said method comprising a step wherein organic compound is brought into contact with hydrogen gas at a predetermined pressure,~~ wherein said organic compound is capable of forming a hydrogen molecular compound by being brought into contact with hydrogen gas.
4. (Original) A method for storing hydrogen according to claim 3, wherein said molecular compound is hydrogen clathrate containing said organic compound as a host compound.
5. (Currently amended) A method for storing hydrogen according to claim 4, wherein said organic compound is at least one selected from the group consisting of monomolecular ~~type~~ host compounds, multimolecular ~~type~~ host compounds, and high-molecular ~~type~~ host compounds.
6. (Currently amended) A method for storing hydrogen according to claim 5, wherein said monomolecular ~~type~~ host compound is at least one selected from the group consisting of cyclodextrins, crown ethers, cryptands, cyclophanes, azacyclophanes, calixarenes, cyclotrimeratrylenes, spherands, and cyclic oligopeptides.
7. (Currently amended) A method for storing hydrogen according to claim 6, wherein said multimolecular ~~type~~ host compound is at least one selected from the group consisting of ureas, thioureas, deoxycholates, perhydrotriphenylenes, tri-o-thymotides, bianthrlyls, spirobifluorenes, cyclophosphazenes, monoalcohols, diols, acetylene alcohols, hydroxybenzophenones, phenols, bisphenols, trisphenols, tetrakis phenols, polyphenols, naphthols, bis-naphthols, diphenylmehanols, carboxylic amides, thioamides, bixanthene, carboxylic acids, imidazoles,



hydroquinones, organic phosphorus compound, and organic silicon compound.

8. (Currently amended) A method for storing hydrogen according to claim 7, wherein said multimolecular type host compound is at least one selected from the group consisting of urea, 1,1,6,6-tetraphenyl-2,4-hexadiyn-1,6-diol, 1,1-bis(2,4-dimethylphenyl)-2-propyn-1-ol, 1,1,4,4-tetraphenyl-2-butyne-1,4-diol, 1,1,6,6-tetrakis(2,4-dimethylphenyl)-2,4-hexadiyn-1,6-diol, 9,10-diphyenyl-9,10-dihydroanthracene-9,10-diol, 9,10-bis(4-methylphenyl)-9,10-dihydroanthracene-9,10-diol, 1,1,2,2-tetraphenylethane-1,2-diol, 4-methoxyphenol, 2,4-dihydroxybenzophenone, 4,4'-dihydroxybenzophenone, 2,2'-dihydroxybenzophenone, 2,2',4,4'-tetrahydroxybenzophenone, 1,1-bis(4-hydroxyphenyl)cyclohexane, 4,4'-sulfonyl bisphenol, 2,2'-methylene bis(4-methyl-6-t-butylphenol), 4,4'-ethyldene bisphenol, 4,4'-thiobis(3-methyl-6-t-butylphenol), 1,1,3-tris(2-methyl-4-hydroxy-5-t-butylphenyl)butane, 1,1,2,2-tetrakis(4-hydroxyphenyl)ethane, 1,1,2,2-tetrakis(4-hydroxyphenyl)ethylene, 1,1,2,2-tetrakis(3-mehyl-4-hydroxyphenyl)ethane, 1,1,2,2-tetrakis(3-fluoro-4-hydroxyphenyl)ethane, α, α, α', α'-tetrakis(4-hydroxyphenyl)-p-xylene, tetrakis(p-methoxyphenyl)ethylene, 3,6,3',6'-tetramethoxy-9,9'-bi-9H-xanthene, 3,6,3',6'-tetraacetoxy-9,9'-bi-9H-xanthene, 3,6,3',6'-tetrahydroxy-9,9'-bi-9H-xanthene, gallic acid, methyl gallate, catechin, bis-β-naphthol, α, α, α', α'-tetraphenyl-1,1'-biphenyl-2,2'-dimethanol, bis-dicyclohexylamide diphenirate, bis-dicyclohexylamide fumarate, cholic acid, deoxycholic acid, 1,1,2,2-tetraphenylethane, tetrakis(p-iodophenyl)ethylene, 9,9'-bianthryl, 1,1,2,2-tetrakis(4-carboxyphenyl)ethane, 1,1,2,2-tetrakis(3-carboxyphenyl)ethane, acetylene dicarboxyl acid, 2,4,5-triphenyl imidazole, 1,2,4,5-tetraphenyl imidazole, 2-phenyl phenanthro[9,10-d]imidazole, 2-(o-cyanophenyl)phenanthro[9,10-d]imidazole, 2-(m-cyanophenyl)phenanthro[9,10-d]imidazole, 2-(p-cyanophenyl)phenanthro[9,10-d]imidazole, hydroquinone, 2-t-butyl hydroquinone, 2,5-di-t-butyl hydroquinone, 2,5-bis(2,4-dimethylphenyl)hydroquinone, and trim-trylphosphine.

9. (Currently amended) A method for storing hydrogen according to claim 8, wherein said multimolecular type host compound is at least one selected from the group consisting of 1,1-bis(4-hydroxyphenyl)cyclohexane, 1,1,2,2-tetrakis(4-hydroxyphenyl)ethane, 1,1,2,2-tetrakis(4-hydroxyphenyl)ethylene, tetrakis(p-methoxyphenyl)ethylene, tetrakis(p-iodophenyl)ethylene, 9,9'-bianthryl and 1,1,2,2-tetraphenylethane, bis(dicyclohexylamide)diphenirate, bis-

dicyclohexylamide fumarate,  $\alpha$ ,  $\alpha$ ,  $\alpha'$ ,  $\alpha'$ -tetraphenyl-1,1'-biphenyl-2,2'-dimethanol, 1,1,6,6-tetraphenyl-2,4-hexadiyn-1,6-diol, and 2-(m-cyanophenyl)phenanthro[9,10-d]imidazole.

10. (Currently amended) A method for storing hydrogen according to claim 5, wherein said high-molecular type host compound is at least one selected from the group consisting of celluloses, starchs, chitins, chitosans, polyvinyl alcohols, polymers of polyethylene glycol arm type of which core is 1,1,2,2-tetrakis phenyl ethane, and polymers of polyethylene glycol arm type of which core is  $\alpha$ ,  $\alpha$ ,  $\alpha'$ ,  $\alpha'$ -tetrakis phenyl xylene.

11. (Original) A method for storing hydrogen according to claim 4, wherein said organic compound is at least one selected from the group consisting of aromatic compounds, amide compounds, alcohol compounds, imidazole compounds, hydroquinones, ureas, corboxilic acids, cyclodextrines, polyphenols, cholic acids, celluloses, and organic phosphorous compounds.

12. (Original) A method for storing hydrogen according to claim 11, wherein said aromatic compounds are phenolic compounds.

13. (Currently Amended) A method for storing hydrogen according to ~~claim 1~~claim 3, wherein hydrogen gas is brought into contact with said organic compound at a pressure of higher than ~~1.0~~10 MPa0.1 MPa.

14. (Currently Amended) A method for storing hydrogen according to ~~claim 1~~claim 3, wherein hydrogen gas is brought into contact with said organic compound at a pressure between ~~1.0~~10 MPa 0.1 MPa and 200MPa.

15-16. (Canceled).

17. (Currently Amended) Hydrogen clathrate enclosing hydrogen which is formed by contact reaction between a host compound and hydrogen, wherein said host compound is at least one selected from the group consisting of monomolecular host compounds, multimolecular host compounds, high-molecular host compounds, and inorganic host compounds according to claim

16, wherein said monomolecular type host compound is at least one selected from the group consisting of cyclodextrins, crown ethers, cryptands, cyclophanes, azacyclophanes, calixarenes, cyclotrimerarylenes, spherands, and cyclic oligopeptides.

18. (Currently Amended) Hydrogen clathrate enclosing hydrogen which is formed by contact reaction between a host compound and hydrogen, wherein said host compound is at least one selected from the group consisting of monomolecular host compounds, multimolecular host compounds, high-molecular host compounds, and inorganic host compounds according to claim 16, wherein said multimolecular type host compound is at least one selected from the group consisting of ureas, thioureas, deoxycholates, perhydrotriphenylenes, tri-o-thymotides, bianthryls, spirobifluorenes, cyclophosphazenes, monoalcohols, diols, acetylene alcohols, hydroxybenzophenones, phenols, bisphenols, trisphenols, tetrakis phenol-base, polyphenols, naphthols, bis-naphthols, diphenylmethanols, carboxylic amides, thioamides, bixanthene, carboxylic acids, imidazoles, hydroquinones, organic phosphorus compound, and organic silicon compound.

19. (Currently amended) Hydrogen clathrate according to claim 18, wherein said multimolecular type host compound is at least one selected from the group consisting of urea, 1,1,6,6-tetraphenyl-2,4-hexadiyn-1,6-diol, 1,1-bis(2,4-dimethylphenyl)-2-propyn-1-ol, 1,1,4,4-tetraphenyl-2-butyne-1,4-diol, 1,1,6,6-tetrakis(2,4-dimethylphenyl)-2,4-hexadiyn-1,6-diol, 9,10-diphenyl-9,10-dihydroanthracene-9,10-diol, 9,10-bis(4-methylphenyl)-9,10-dihydroanthracene-9,10-diol, 1,1,2,2-tetraphenylethane-1,2-diol, 4-methoxyphenol, 2,4-dihydroxybenzophenone, 4,4'-dihydroxybenzophenone, 2,2'-dihydroxybenzophenone, 2,2',4,4'-tetrahydroxybenzophenone, 1,1-bis(4-hydroxyphenyl)cyclohexane, 4,4'-sulfonyl bisphenol, 2,2'-methylene bis(4-methyl-6-t-butylphenol), 4,4'-ethylidene bisphenol, 4,4'-thiobis(3-methyl-6-t-butylphenol), 1,1,3-tris(2-methyl-4-hydroxy-5-t-butylphenyl)butane, 1,1,2,2-tetrakis(4-hydroxyphenyl)ethane, 1,1,2,2-tetrakis(4-hydroxyphenyl)ethylene, 1,1,2,2-tetrakis(3-methyl-4-hydroxyphenyl)ethane, 1,1,2,2-tetrakis(3-fluoro-4-hydroxyphenyl)ethane,  $\alpha$ ,  $\alpha$ ,  $\alpha'$ ,  $\alpha'$ -tetrakis(4-hydroxyphenyl)-p-xylene, tetrakis(p-methoxyphenyl)ethylene, 3,6,3',6'-tetramethoxy-9,9'-bi-9H-xanthene, 3,6,3',6'-tetraacetoxy-9,9'-bi-9H-xanthene, 3,6,3',6'-tetrahydroxy-9,9'-bi-9H-xanthene, gallic acid, methyl gallate, catechin, bis- $\beta$ -naphthol,  $\alpha$ ,  $\alpha$ ,  $\alpha'$ ,  $\alpha'$ -tetraphenyl-1,1'-biphenyl-2,2'-dimethanol, bis-

dicyclohexylamide diphenirate, bis-dicyclohexylamide fumarate, cholic acid, deoxycholic acid, 1,1,2,2-tetraphenylethane, tetrakis(p-iodophenyl)ethylene, 9,9'-bianthryl, 1,1,2,2-tetrakis(4-carboxyphenyl)ethane, 1,1,2,2-tetrakis(3-carboxyphenyl)ethane, acetylene dicarboxyl acid, 2,4,5-triphenyl imidazole, 1,2,4,5-tetraphenyl imidazole, 2-phenyl phenanthro[9,10-d]imidazole, 2-(o-cyanophenyl)phenanthro[9,10-d]imidazole, 2-(m-cyanophenyl)phenanthro[9,10-d]imidazole, 2-(p-cyanophenyl)phenanthro[9,10-d]imidazole, hydroquinone, 2-t-butyl hydroquinone, 2,5-di-t-butyl hydroquinone, 2,5-bis(2,4-dimethylphenyl)hydroquinone, and trim-trylphosphine.

20. (Currently amended) Hydrogen clathrate according to claim 19, wherein said multi molecular type host compound is at least one selected from the group consisting of 1,1-bis(4-hydroxyphenyl)cyclohexane, 1,1,2,2-tetrakis(4-hydroxyphenyl)ethane, 1,1,2,2-tetrakis(4-hydroxyphenyl)ethylene, tetrakis(p-methoxyphenyl)ethylene, tetrakis(p-iodophenyl)ethylene, 9,9'-bianthryl, 1,1,2,2-tetraphenylethane, bis(dicyclohexylamide)diphenirate, bis-dicyclohexylamide fumarate,  $\alpha$ ,  $\alpha$ ,  $\alpha'$ ,  $\alpha'$ -tetraphenyl-1,1'-biphenyl-2,2'-dimethanol and 1,1,6,6-tetraphenyl-2,4-hexadiyn-1,6-diol, and 2-(m-cyanophenyl)phenanthro[9,10-d]imidazole.

21. (Currently Amended) Hydrogen clathrate enclosing hydrogen which is formed by contact reaction between a host compound and hydrogen, wherein said host compound is at least one selected from the group consisting of monomolecular host compounds, multimolecular host compounds, high-molecular host compounds, and inorganic host compounds according to claim 16, wherein said high-molecular type host compound is at least one selected from the group consisting of celluloses, starchs, chitins, chitosans, polyvinyl alcohols, polymers of polyethylene glycol arm type of which core is 1,1,2,2-tetrakis phenyl ethane, and polymers of polyethylene glycol arm type of which core is  $\alpha$ ,  $\alpha$ ,  $\alpha'$ ,  $\alpha'$ -tetrakis phenyl xylene.

22. (Currently Amended) Hydrogen clathrate enclosing hydrogen which is formed by contact reaction between a host compound and hydrogen, wherein said host compound is at least one selected from the group consisting of monomolecular host compounds, multimolecular host compounds, high-molecular host compounds, and inorganic host compounds according to claim 16, wherein said inorganic host compound is at least one selected from the group

consisting of clay minerals, monomorillonites, and zeolites.

23. (Currently Amended) Hydrogen clathrate enclosing hydrogen which is formed by contact reaction between a host compound and hydrogen according to claim 15, wherein said host compound is at least one selected from the group consisting of aromatic compounds, amide compounds, alocohol compounds, imidazole compounds, hydroquinones, ureas, corboxilic acids, cyclodextrines, polyphenols, cholic acids, celluloses, and organic phosphorous compounds.

24. (Original) Hydrogen clathrate according to claim 23, whrein said aromatic compounds are phenolic compounds.

25. (Original) A production method of a hydrogen clathrate comprising  
a step of dissolving a host compound into a solvent, and a step of recrystallizing the host compound with injecting hydrogen into the solvent, and inserting hydrogen molecules into crystal lattice of the host compound.

26. (Currently amended) A production method of a hydrogen clathrate according to claim 25, wherein said host compound is at least one selected from the group consisting of monomolecular type host compounds, multimolecular type host compounds, and high-molecular type host compounds and inorganic host compounds.

27. (Currently amended) A production method of a hydrogen clathrate according to claim 26, wherein said monomolecular type host compounds is at least one selected from the group consisting of cyclodextrins, crown ethers, cryptands, cyclophanes, azacyclophanes, calixarenes, cyclotrimeratrylenes, spherands, and cyclic oligopeptides.

28. (Currently amended) A production method of a hydrogen clathrate according to claim 27, wherein said multimolecular type host compound is at least one selected from the group consisting of ureas, thioureas, deoxycholates, perhydrotriphenylenes, tri-o-thymotides, bianthryls, spirobifluorenes, cyclophosphazenes, monoalcohols, diols, acetylene alcohols, hydroxybenzophenones, phenols, bisphenols, trisphenols, tetrakis phenol-base, polyphenols,

naphthols, bis-naphthols, diphenylmethanols, carboxylic amides, thioamides, bixanthene, carboxylic acids, imidazoles, hydroquinones, organic phosphorus compound, and organic silicon compound.

29. (Currently amended) A production method of a hydrogen clathrate according to claim 28, wherein said multimolecular type host compound is at least one selected from the group consisting of urea, 1,1,6,6-tetraphenyl-2,4-hexadiyn-1,6-diol, 1,1-bis(2,4-dimethylphenyl)-2-propyn-1-ol, 1,1,4,4-tetraphenyl-2-butyne-1,4-diol, 1,1,6,6-tetrakis(2,4-dimethylphenyl)-2,4-hexadiyn-1,6-diol, 9,10-diphenyl-9,10-dihydroanthracene-9,10-diol, 9,10-bis(4-methylphenyl)-9,10-dihydroanthracene-9,10-diol, 1,1,2,2-tetraphenylethane-1,2-diol, 4-methoxyphenol, 2,4-dihydroxybenzophenone, 4,4'-dihydroxybenzophenone, 2,2'-dihydroxybenzophenone, 2,2',4,4'-tetrahydroxybenzophenone, 1,1-bis(4-hydroxyphenyl)cyclohexane, 4,4'-sulfonyl bisphenol, 2,2'-methylene bis(4-methyl-6-t-butylphenol), 4,4'-ethylidene bisphenol, 4,4'-thiobis(3-methyl-6-t-butylphenol), 1,1,3-tris(2-methyl-4-hydroxy-5-t-butylphenyl)butane, 1,1,2,2-tetrakis(4-hydroxyphenyl)ethane, 1,1,2,2-tetrakis(4-hydroxyphenyl)ethylene, 1,1,2,2-tetrakis(3-methyl-4-hydroxyphenyl)ethane, 1,1,2,2-tetrakis(3-fluoro-4-hydroxyphenyl)ethane,  $\alpha$ ,  $\alpha$ ,  $\alpha'$ ,  $\alpha'$ -tetrakis(4-hydroxyphenyl)-p-xylene, tetrakis(p-methoxyphenyl)ethylene, 3,6,3',6'-tetramethoxy-9,9'-bi-9H-xanthene, 3,6,3',6'-tetra acetoxy-9,9'-bi-9H-xanthene, 3,6,3',6'-tetrahydroxy-9,9'-bi-9H-xanthene, gallic acid, methyl gallate, catechin, bis- $\beta$ -naphthol,  $\alpha$ ,  $\alpha$ ,  $\alpha'$ ,  $\alpha'$ -tetraphenyl-1,1'-biphenyl-2,2'-dimethanol, bis-dicyclohexylamide diphenirate, bis-dicyclohexylamide fumarate, cholic acid, deoxycholic acid, 1,1,2,2-tetraphenylethane, tetrakis(p-iodophenyl)ethylene, 9,9'-bianthryl, 1,1,2,2-tetrakis(4-carboxyphenyl)ethane, 1,1,2,2-tetrakis(3-carboxyphenyl)ethane, acetylene dicarboxyl acid, 2,4,5-triphenyl imidazole, 1,2,4,5-tetraphenyl imidazole, 2-phenyl phenanthro[9,10-d]imidazole, 2-(o-cyanophenyl)phenanthro[9,10-d]imidazole, 2-(m-cyanophenyl)phenanthro[9,10-d]imidazole, 2-(p-cyanophenyl)phenanthro[9,10-d]imidazole, hydroquinone, 2-t-butyl hydroquinone, 2,5-di-t-butyl hydroquinone, 2,5-bis(2,4-dimethylphenyl)hydroquinone, and tri-m-trylphosphine.

30. (Currently amended) A production method of a hydrogen clathrate according to claim 29, wherein said multi molecular type host compound is at least one selected from the group consisting of 1,1-bis(4-hydroxyphenyl)cyclohexane, 1,1,2,2-tetrakis(4-hydroxyphenyl)ethane,

1,1,2,2-tetrakis(4-hydroxyphenyl)ethylene,      tetrakis(p-methoxyphenyl)ethylene,      tetrakis(p-iodophenyl)ethylene,      9,9'-bianthryl,      1,1,2,2-tetraphenylethane,      bis(dicyclohexylamide)diphenirate,      bis-dicyclohexylamide fumarate,       $\alpha$ ,  $\alpha$ ,  $\alpha'$ ,  $\alpha'$ -tetraphenyl-1,1'-biphenyl-2,2'-dimethanol      and      1,1,6,6-tetraphenyl-2,4-hexadiyn-1,6-diol,      and      2-(m-cyanophenyl)phenanthro[9,10-d]imidazole.

31. (Currently amended) A production method of a hydrogen clathrate according to claim 26, wherein said high-molecular type host compound is at least one selected from the group consisting of celluloses, starchs, chitins, chitosans, polyvinyl alcohols, polymers of polyethylene glycol arm type of which core is 1,1,2,2-tetrakis phenyl ethane, and polymers of polyethylene glycol arm type of which core is  $\alpha$ ,  $\alpha$ ,  $\alpha'$ ,  $\alpha'$ -tetrakis phenyl xylene.

32. (Currently amended) A production method of a hydrogen clathrate according to claim 26, ~~wherein~~ wherein said inorganic host compound is at least one selected from the group consisting of clay minerals, montmorillonites, and zeolites.

33. (Currently amended) A production method of a hydrogen clathrate as claimed in claim 25, wherein said host compound is a multimolecular type host compound ~~such as~~ including phenolic type host compound, and wherein the solvent is at least one selected from the group consisting of alcohols ~~such as~~ including methanol and ethanol, ketones ~~such as~~ including acetone and methyl ethyl ketone, esters ~~such as~~ including ethyl acetate, ethers ~~such as~~ including diethyl ether and dibutyl ether, furans ~~such as~~ including tetrahydrofuran, amides ~~such as~~ including dimethyl acetamide, and aldehydes ~~such as~~ including acetaldehyde and benzaldehyde.

34-35. (Canceled).

36. (Currently Amended) A production method of a hydrogen clathrate comprising a step of bringing hydrogen gas into contact with a host compound at a predetermined pressure, wherein said host compound is at least one selected from the group consisting of monomolecular host compounds, multimolecular host compounds, and high-molecular host compounds according to claim 35, wherein said monomolecular type compound is at least one selected from the group

consisting of cyclodextrins, crown ethers, cryptands, cyclophanes, azacyclophanes, calixarenes, cyclotrimeratrylenes, spherands, and cyclic oligopeptides.

37. (Currently Amended) A production method of a hydrogen clathrate ~~according to claim 35~~ comprising a step of bringing hydrogen gas into contact with a host compound at a predetermined pressure, wherein said host compound is at least one selected from the group consisting of monomolecular host compounds, multimolecular host compounds, and high-molecular host compounds, wherein said multimolecular type host compound is at least one selected from the group consisting of ureas, thioureas, deoxycholates, perhydrotriphenylenes, tri-o-thymotides, bianthryls, spirobifluorenes, cyclophosphazenes, monoalcohols, diols, acetylene alcohols, hydroxybenzophenones, phenols, bisphenols, trisphenols, tetrakis phenol-base, polyphenols, naphthols, bis-naphthols, diphenylmethanols, carboxylic amides, thioamides, bixanthene, carboxylic acids, imidazoles, hydroquinones, organic phosphorus compound, and organic silicon compound.

38. (Currently amended) A production method of a hydrogen clathrate according to claim 37, wherein said multimolecular type host compound is at least one selected from the group consisting of urea, 1,1,6,6-tetraphenyl-2,4-hexadiyn-1,6-diol, 1,1-bis(2,4-dimethylphenyl)-2-propyn-1-ol, 1,1,4,4-tetraphenyl-2-butyne-1,4-diol, 1,1,6,6-tetrakis(2,4-dimethylphenyl)-2,4-hexadiyn-1,6-diol, 9,10-diphyenyl-9,10-dihydroanthracene-9,10-diol, 9,10-bis(4-methylphenyl)-9,10-dihydroanthracene-9,10-diol, 1,1,2,2-tetraphenylethane-1,2-diol, 4-methoxyphenol, 2,4-dihydroxybenzophenone, 4,4'-dihydroxybenzophenone, 2,2'-dihydroxybenzophenone, 2,2',4,4'-tetrahydroxybenzophenone, 1,1-bis(4-hydroxyphenyl)cyclohexane, 4,4'-sulfonyl bisphenol, 2,2'-methylene bis(4-methyl-6-t-butylphenol), 4,4'-ethyldene bisphenol, 4,4'-thiobis(3-methyl-6-t-butylphenol), 1,1,3-tris(2-methyl-4-hydroxy-5-t-butylphenyl)butane, 1,1,2,2-tetrakis(4-hydroxyphenyl)ethane, 1,1,2,2-tetrakis(4-hydroxyphenyl)ethylene, 1,1,2,2-tetrakis(3-methyl-4-hydroxyphenyl)ethane, 1,1,2,2-tetrakis(3-fluoro-4-hydroxyphenyl)ethane,  $\alpha$ ,  $\alpha$ ,  $\alpha'$ ,  $\alpha'$ -tetrakis(4-hydroxyphenyl)-p-xylene, tetrakis(p-methoxyphenyl)ethylene, 3,6,3',6'-tetramethoxy-9,9'-bi-9H-xanthene, 3,6,3',6'-tetra acetoxy-9,9'-bi-9H-xanthene, 3,6,3',6'-tetrahydroxy-9,9'-bi-9H-xanthene, gallic acid, methyl gallate, catechin, bis- $\beta$ -naphthol,  $\alpha$ ,  $\alpha$ ,  $\alpha'$ ,  $\alpha'$ -tetraphenyl-1,1'-biphenyl-2,2'-dimethanol, bis-dicyclohexylamide diphenirate, bis-dicyclohexylamide fumarate, cholic acid,

deoxycholic acid, 1,1,2,2-tetraphenylethane, tetrakis(p-iodophenyl)ethylene, 9,9'-bianthryl, 1,1,2,2-tetrakis(4-carboxyphenyl)ethane, 1,1,2,2-tetrakis(3-carboxyphenyl)ethane, acetylene dicarboxyl acid, 2,4,5-triphenyl imidazole, 1,2,4,5-tetraphenyl imidazole, 2-phenyl phenanthro[9,10-d]imidazole, 2-(o-cyanophenyl)phenanthro[9,10-d]imidazole, 2-(m-cyanophenyl)phenanthro[9,10-d]imidazole, 2-(p-cyanophenyl)phenanthro[9,10-d]imidazole, hydroquinone, 2-t-butyl hydroquinone, 2,5-di-t-butyl hydroquinone, 2,5-bis(2,4-dimethylphenyl)hydroquinone, and tri-m-trylphosphine.

39. (Currently amended) A production method of a hydrogen clathrate according to claim 38, wherein said multi molecular type host compound is at least one selected from the group consisting of 1,1-bis(4-hydroxyphenyl)cyclohexane, 1,1,2,2-tetrakis(4-hydroxyphenyl)ethane, 1,1,2,2-tetrakis(4-hydroxyphenyl)ethylene, tetrakis(p-methoxyphenyl)ethylene, tetrakis(p-iodophenyl)ethylene, 9,9'-bianthryl and 1,1,2,2-tetraphenylethane, bis(dicyclohexylamide)diphenirate, bis-dicyclohexylamide fumarate,  $\alpha$ ,  $\alpha$ ,  $\alpha'$ ,  $\alpha'$ -tetraphenyl-1,1'-biphenyl-2,2'-dimethanol, 1,1,6,6-tetraphenyl-2,4-hexadiyn-1,6-diol, and 2-(m-cyanophenyl)phenanthro[9,10-d]imidazole.

40. (Currently Amended) A production method of a hydrogen clathrate ~~according to claim 35 comprising a step of bringing hydrogen gas into contact with a host compound in a pressurized state, wherein said host compound is at least one selected from the group consisting of monomolecular host compounds, multimolecular host compounds, and high-molecular host compounds,~~ wherein said high-molecular type host compound is at least one selected from the group consisting of celluloses, starchs, chitins, chitosans, polyvinyl alcohols, polymers of polyethylene glycol arm type of which core is 1,1,2,2-tetrakis phenyl ethane, and polymers of polyethylene glycol arm type of which core is  $\alpha$ ,  $\alpha$ ,  $\alpha'$ ,  $\alpha'$ -tetrakis phenyl xylene.